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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/574,981	04/07/2006	Taketoshi Usui	01197.0270	7145

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EXAMINER	
MCCULLEY, MEGAN CASSANDRA	
ART UNIT	PAPER NUMBER
1796	

MAIL DATE	DELIVERY MODE
10/15/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/574,981	USUI ET AL.	
	Examiner	Art Unit	
	Megan McCulley	1796	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *24 September 2007*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-26* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-26* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *9/24/2007; 4/7/2006*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-3, 7-16, and 19-26 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The parentheses in line 5 of claim 1 around “structures (1)” render the claim indefinite and must be removed. It is unclear if the text within the parentheses is included in the claim and further limits the subject matter of the claim, or whether it is an aside to the claim and is not further limiting. For the purpose of further examination, it is taken that the text within the parenthesis further limits the claim. The parentheses around the component names, i.e. (1), (2), (b1), etc. are acceptable. Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 7-16, 19-20, and 22-26 are rejected under 35 U.S.C. 102(b) as being anticipated by Ishimura et al. (EP 0304503).

Regarding claim 1: Ishimura et al. teaches a curing agent/hardener (abstract) comprising a curing agent/hardener (abstract), surface/coating absorbing groups from urea bonds (page 6 lines 3-4) resulting from the reaction of aliphatic triisocyanates such as 1,3,6-triisocyanate methyl hexane (page 6 lines 7-20) which forms a urea bond between one nitrogen atom of each triisocyanates and has 3 nitrogen atoms from a cyclic aliphatic hydrocarbon group.

Regarding claim 7: Ishimura et al. teaches it is an amine curing agent (abstract).

Regarding claim 8: While Ishimura et al. does not directly teach that the glass transition temperature of the coating is 80 °C or less, since all of the components are present in the composition it is inherent that the composition would have these properties. If it is applicants' position that this would not be the case: (1) evidence would need to be presented to support applicants' position; and (2) it would be the Office's position that the application contains inadequate disclosure that there is no teaching as to how to obtain a composition with these properties.

Regarding claim 9: Ishimura et al. teaches a core shell curing agent obtained by reacting the curing agent and an epoxy resin (abstract).

Regarding claim 10: Ishimura et al. teaches a master batch curing agent comprising 100 parts by mass of the curing agent/hardener and 10-50,000 parts by mass of an epoxy resin (abstract).

Regarding claim 11: Ishimura et al. teaches 0.1 to 100 parts by weight of the hardener to 100 parts of an epoxy resin (page 9 lines 19-20).

Regarding claim 12: Ishimura et al. teaches the composition can be mixed with other curing agents such as acid anhydrides (page 9 lines 24-39). Example 13 has 100 parts by weight epoxy, 90 parts by weight acid anhydride and 10 parts by weight hardener (pg. 18), which overlaps the claimed ranges.

Regarding claims 13, 23: Ishimura et al. teaches using the compositions for IC chip sealing, which uses anisotropic conductive materials (pg. 10 lines 21-31).

Regarding claims 14, 24: Ishimura et al. teaches using the compositions for the bonding of printed circuit boards, which uses conductive adhesive materials (pg. 10 lines 21-31).

Regarding claims 15, 25: Ishimura et al. teaches using the compositions for bonding headlight devices, which uses insulating adhesive material (pg. 10 lines 21-31).

Regarding claims 16, 26: Ishimura et al. teaches using the compositions for sealing/encapsulating motor coils (pg. 10 lines 21-31).

Regarding claim 19: Ishimura et al. teaches 0.1 to 100 parts by weight of the hardener to 100 parts of an epoxy resin (page 9 lines 19-20).

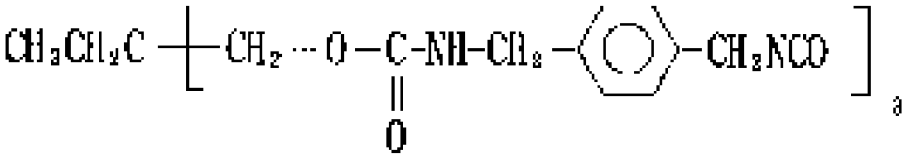
Regarding claim 20: Ishimura et al. teaches 0.1 to 100 parts by weight of the masterbatch to 100 parts of an epoxy resin (page 9 lines 19-20).

Regarding claim 22: Ishimura et al. teaches the composition can be mixed with other curing agents such as acid anhydrides (page 9 lines 24-39). Example 13 has 100

parts by weight epoxy, 90 parts by weight acid anhydride and 10 parts by weight masterbatch (pg. 18), which overlaps the claimed ranges.

Claims 4, 6 and 18 are rejected under 35 U.S.C. 102(b) as being anticipated by Hosokawa et al. (JP 2000-230032). The English language machine translation for the Japanese document is used for the citations below.

Regarding claim 4: Hosokawa et al. teaches a curing agent for an epoxy resin (abstract) comprising a curing agent coated/core and shell curing agent obtained by reacting an isocyanate of the formula :



… (1)

(page 5 formula 4) which has not less than three isocyanate groups and has a low molecular weight (676). Further, since it is a discreet molecule rather than a polymer, i.e. n=3 always, there is no molecular weight distribution. It is in an amount of 30-80% (page 5 end of para. 8). The isocyanate is further reacted with an active hydrogen compound, water (page 9 para. 36).

Regarding claim 6: Hosokawa et al. teaches the first isocyanate compound is in an amount of 30-80% (see above in claim 4) and there is another isocyanate in an amount of 20-70% (page 5 formula 5 and para. 8).

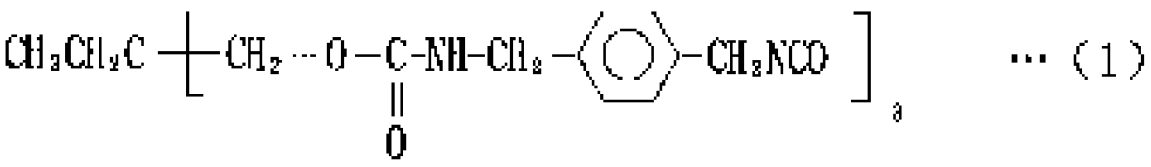
Regarding claim 18: Hosokawa et al. teaches 100 parts epoxy to 0.1-3 parts of the core-shell curing agent (abstract) which is equivalent to 3,300-100,000 parts epoxy for 100 parts core-shell curing agent and overlaps the claimed range.

Claim 5 is rejected under 35 U.S.C. 102(b) as being anticipated by Hosokawa et al. (JP 2000-230032) as applied to claim 4 above and when taken with Ishimura et al. (EP 0304503). The English language machine translation for the Japanese document is used for the citations below.

Regarding claim 5: While Hosokawa et al. does not directly teach that the curing agent has a bonding group absorbing infrared rays having a wavelength of 1630 cm^{-1} to 1680 cm^{-1}, it is inherent that the curing agent has this property since a urea group is present (abstract) as evidenced by Ishimura et al. (page 6 lines 3-4) which states that urea linkages have absorption at a wavelength of 1630 cm^{-1} to 1680 cm^{-1}.

Claim 17 is rejected under 35 U.S.C. 102(b) as being anticipated by Hosokawa et al. (JP 2000-230032). The English language machine translation for the Japanese document is used for the citations below.

Regarding claim 17: Hosokawa et al. teaches coating/a shell-core curing agent for an epoxy resin (abstract) formed by reacting an isocyanate component of the formula:



… (1)

(page 5 formula 4) which has not less than three isocyanate groups and has a low molecular weight (676). Further, since it is a discreet molecule rather than a polymer, i.e. n=3 always, there is no molecular weight distribution. It is in an amount of 30-80% (page 5

end of para. 8). The isocyanate is further reacted with an active hydrogen compound, water (page 9 para. 36).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 2 and 3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ishimura et al. (EP 0304503) as applied to claim 1.

Regarding claims 2, 3: Ishimura et al. teaches the basic claimed composition as set forth above. Ishimura et al. further teaches an aromatic hydrocarbon bonded to two nitrogen atoms/tolylenediisocyanate (page 6 line 18). While the ratio between this

diisocyanate and the triisocyanates as 0.5%-95% or 1%-80% is not disclosed, the experimental modification of this prior art in order to ascertain optimum operating conditions fails to render applicants' claims patentable in the absence of unexpected results. See *In re Aller*, 105 USPQ 233 and MPEP 2144.05. At the time of the invention a person having ordinary skill in the art would have found it obvious to optimize ratio of isocyanates and would have been motivated to do so for such desirable properties as a coating structure with sufficient urea groups for storage stability. A prima facie case of obviousness may be rebutted, however, where the results of the optimizing variable, which is known to be result-effective, are unexpectedly good. See *In re Boesch and Slaney*, 205 USPQ 215.

Correspondence

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Megan McCulley whose telephone number is (571)270-3292. The examiner can normally be reached on Monday - Friday 7:30-5:00 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Eashoo can be reached on (571) 272-1197. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Mark Eashoo, Ph.D./
Supervisory Patent Examiner, Art Unit 1796

/M. M./
Examiner, Art Unit 1796